

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/645,070	SLAUGENHAUPT ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	William T. Leader	1742	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>3-22-04; 9-15-05</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                                       | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

### **DETAILED ACTION**

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Juric patent (5,456,808) is directed to a method for operating an aluminum smelting cell. By circulating air through heat exchange spaces between plates 8 and 9 and into ducts 17, the heat balance of the cell may be controlled and monitored by measuring the volume and temperature of the air flowing through the heat exchanger. The Duprat et al patent (4,668,352) is directed to a process and apparatus for automatic increased suction extraction on electrolysis tanks for the production of aluminum. The invention is based on the observation that, if the temperature of the gaseous flow entrained over each tank by a central suction extraction system is measured at a suitable point, as soon as one cover of the cell is opened, there is an abrupt drop in the temperature of the gaseous flow (column 3, lines 18-30). The temperature is measured in each of the ducts which collect the gas over each cell. The temperature may drop up to 50° to 100°C when a cover is opened (column 3, lines 31-48).
2. The Desclaux et al patent (4,668,350) is discussed in paragraph [0006] of the instant specification under the heading "Background of the Invention", and in the written opinion of PCT/US2004/027046 prepared by the European Patent Office. Desclaux et al state that "It is well known that, under steady state operation of a cell, there is a relationship between bath ratio and electrolyte temperature, which is substantially linear within the normal operating range" (column 1, lines 33-38). The Desclaux et al patent makes use of this known dependence of electrolyte temperature on bath ratio to control the rate of addition of  $AlF_3$  to the electrolyte (column 1, lines 50-52). "It is disclosed that cell temperature may be measured in a variety of

ways and at a variety of locations. It is possible to measure the electrolyte temperature directly; but, as noted above, this may not always be satisfactory due to short term fluctuations in electrolyte temperature. Alternatively, cell temperature can be measured by means inserted in the side wall, or the floor, or in a cathode current collector in the cell floor." See column 2, lines 8-16. "Temperature measurements effected within the wall or floor of the cell have the advantage that they should not be affected by short term fluctuations" (column 2, lines 20-22).

#### **REASONS FOR ALLOWANCE**

3. The following is an examiner's statement of reasons for allowance:
4. As shown by the Desclaux et al patent it is known to measure the temperature of the electrolyte, either directly or indirectly. All of the proposed locations for the indirect measurement of the electrolyte temperature are at elements of the cell which are themselves in direct contact with the electrolyte. There is no suggestion in Desclaux et al to measure the temperature at an element of the cell not in direct physical contact with the electrolyte. In particular, there is no suggestion to measure the temperature of the offgas being carried by a duct, or that the temperature of this gas would correspond to the temperature of the electrolyte. Desclaux et al teach establishing a target cell temperature but do not suggest establishing a target temperature for a duct carrying offgas. The Duprat et al patent does teach measuring the temperature of the offgas in a duct, although it does not teach establishing a target temperature in the duct. Duprat et al found that the temperature dropped abruptly when a cover to the cell was opened. The measured drop in temperature was used to control the suction of the extraction

system. There is no teaching in Duprat et al that the change of temperature of the offgas in a duct correlates with the temperature of the molten electrolyte, or that a measured temperature of the offgas could be used to control the addition of aluminum fluoride to the electrolyte or initiate an inspection of the electrolyte crust as recited in instant claim 1. Rather, by disclosing that the offgas temperature may be subject to large, abrupt changes, the Duprat et al patent teaches away from the use of change in offgas temperature as a control parameter for the electrolyte, especially in view of the disclosure of Desclaux et al that measured temperature fluctuations are undesirable in controlling the electrolyte. The prior art of record does not teach or suggest the particular combination of steps recited in instant claim 1.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William T. Leader whose telephone number is 571-272-1245. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
William Leader  
December 8, 2005

  
ROY KING  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700